R.HOE&CO.



NEW YORK AND LONDON



R. HOE & CO.

NEW YORK AND LONDON BOSTON AND CHICAGO



Manufacturers of Circular Saws

and

Printing Machinery

GOLD MEDAL Highest Award

Universal Exposition, St. Louis—1904.

To R. Hoe & Co., New York.

Pursuant to the Rules and Regulations governing the System of Awards, formal public announcement is hereby made that a Gold Medal has been finally awarded you on your exhibit of Chisel-Tooth Saws in Group 65. A Medal and Diploma for this award will be issued by the Exposition Company as soon as ready for delivery.

> DAVID R. FRANCIS, President of Superior Jury.

LOUISIANA

PURCHASE EXPOSITION

1904

Copyright, 1905 by R. HOE & CO.

E have been engaged since the year 1828 in the manufacture of saws of all kinds, having produced the first Solid Cast Steel Circular Saws ever made in this country, and later originated the famous Chisel-Tooth Saw, an invention that has been of the greatest benefit to the millman. No care or expense is spared to make our saws the most evenly tempered, the most accurately balanced, and the most perfectly finished obtainable.

Our facilities for manufacturing have been greatly enlarged and improved during the past few years, enabling us to make prompt shipments, and, with our long experience, to give an accuracy and thoroughness to our work not attainable elsewhere.

> R. HOE & CO., 504-520 Grand Street, New York, U. S. A.

Also London, England.

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CHISEL-TOOTH SAWS.

O^{UR} Chisel-Tooth Saws, by reason of their superior mechanical construction and excellency of workmanship, are recognized as the standard the world over. About 50,000 are in successful operation, cutting every kind of timber, from pine to lignum-vitæ. No millman can afford to be without one. They require less power, make better lumber and produce it at less cost than any other saws manufactured, and are equally adapted to cutting the largest logs and edging the smallest boards.

READY TO PUT ON MANDREL.

They are furnished ready to put on the mandrel.

SIMPLICITY OF CONSTRUCTION.

The Bits, or teeth, are held firmly in the saw plate by the shanks, and are easily inserted and kept in place without the use of rivets or keys. The round socket in the plate has beveled edges, and the Bits and Shanks are grooved to match. This prevents side play, keeps them absolutely central with the plate, and as firm as the teeth of a solid saw. This arrangement is so simple and strong that, although there have been many efforts to improve upon it, not one has been successful. The bits are so easily changed that the saw need never be taken from the mandrel, and, after the insertion of a new set, is in better condition than an expert sawyer could possibly put a solid saw. Each Bit may be pointed up with a file from one to twenty times.

MATERIAL.

Our saws are manufactured from the best grade of steel, and our Bits and Shanks are drop forgings, tempered in the same manner as the most delicate surgical instruments, and machined mathematically correct.

ECONOMY.

The Bits are very stiff and do not break when cutting knots. When by accident the saw runs upon iron or stone, the damage is

very slight compared to that occasioned a solid-tooth saw under like circumstances. A large, solid, circular saw in cutting a nail or stone may not injure more than half a dozen teeth, but this means that it must be cut down, and re-toothed. Under the most favorable circumstances the cost would not be less than \$5.00. The Chisel-Tooth Saw, on the other hand, would require at most only half a dozen bits—say, 15 cents. The danger of breaking the plate of a Chisel-Tooth Saw is very slight, whereas a solid saw is often torn to pieces.

FROZEN TIMBER.

No other saw has ever been manufactured that equals the "Hoe Chisel-Tooth" in cutting frozen timber. It is the only saw that will stand up in hard-frozen lumber.

A POOR ARTICLE IS DEAR AT ANY PRICE.

The success of our Chisel-Tooth Saws has brought into the market a number of worthless imitations, poorly made and of cheap material, which last but a short time and are a constant source of annoyance and expense for repairs. In some of them the shape of our teeth has been closely copied, and the saw made to resemble ours as nearly as possible, but it is only a resemblance, as many a millman has found to his loss, after being tempted to give one of these inferior tools a trial.

In some cases manufacturers and dealers have represented their cheap imitations as being "Hoe Saws." We are the originators of inserted-tooth saws, and the genuine "Hoe Saw" is made only by us, in New York. Any one offering "Hoe Saws," or BITS or SHANKS that are not made by us here, or a saw claimed to be "AS GOOD AS THE HOE SAW," is endeavoring to enrich himself at the millman's expense and on our reputation.

SHIPMENT.

To facilitate handling and avoid damage in transportation, the Bits are not inserted in the saw at our works, but are carefully packed with extra Shanks and the Wrench in a small wooden box, which is firmly attached to the large case containing the saw. Unless otherwise directed, saws will always be shipped by freight.

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GUARANTEE.

All our Saws, Bits and Shanks are warranted perfect in material and workmanship, and free from flaws and defects.

We will gladly replace or repair, free of charge, anything that is found unsatisfactory, provided it is returned to us within thirty days, and if, upon investigation, we are satisfied the damage or breakage has not been caused by ill-usage or abuse.

TERMS.

Our terms, to any one who has a satisfactory rating in one of the recognized mercantile agency books, are thirty days. We also allow thirty days' time to any one giving satisfactory references from his bank or some reliable business house.

Any one desiring goods shipped C. O. D. must remit in advance sufficient to cover expressage both ways.

We are not responsible for goods sent by mail unless registered. This costs eight (8) cents extra.

All prices are F. O. B. New York. Boxing extra.

DIRECTIONS FOR HANGING AND RUNNING CHISEL-TOOTH SAWS.

MILL.

Be sure that the mill is in good running order and the tracks level and parallel.

MANDREL.

The mandrel must be level; the journals must fill the boxes and should be so constructed that there will be no movement endwise when the mandrel is running. The mandrel must fill the eye of the saw, but enter freely. The pins in the collar must have a fair bearing. Sometimes, when driving them in, a burr is thrown up. This tends to throw the saw over to one side if not carefully filed off.

COLLARS.

The loose collar must be perfectly flat and true, and the fast collar slightly concave. If, after the collars are screwed tight, the face or log side of the saw is not flat, but bulges out, or is crowning, a paper circle about three-fourths of an inch wide, and the same diameter as the collar, should be placed between the fast collar and the saw; and a small paper circle which just fits the mandrel should be cut out and placed between the loose collar and the saw. If the saw dishes on the log side, the paper circles should be reversed, the larger one going next the loose collar, and the smaller one next the fast collar.

The paper rings should be dipped in oil, and as many used as necessary in order to make the saw stand straight. If paper does not remedy the defect, the mill should be thoroughly examined, for, if the saw stood plumb before the collars were tightened, the flaw is in the mill, mandrel or collars.

SPREAD WHEEL.

The spread wheel should be set flush with the face of the saw and about half an inch behind the teeth.

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LEAD.

The mandrel must be adjusted so as to give the saw a little lead into the log; the exact amount depends largely on the saw, the timber, and the shape and condition of the teeth. A rotary saw about 48 inches in diameter should have a lead from back to front of about one thirty-second of an inch. The measurement can easily be taken from the head block. If the saw heats near the centre, it should be led a little further into the log. Heating at the rim shows that there is too much lead.

The only proper way to change the line or direction of the saw is by slewing the mandrel. For this purpose the bolt holes in the boxes of most mandrels are slotted, and it is only necessary to loosen the bolts and move the boxes one way or the other by a few light blows of a hammer. If the saw has a tendency to lead into the log, the teeth may be beveled on the back on the log side; and if it tends to lead out of the log, they may be beveled on the board side; but it is difficult to do this properly and we do not recommend it. The teeth should always be square.

GUIDE PINS.

Adjust the guide pins clear of the teeth and just touching the plate. This should be done while the saw is in motion, care being taken that the pins do not push the saw to one side, or rub hard enough to cause friction and heat it.

POWER.

Very often a millman tries to run a saw with a speed and feed too high for the power, which, of course, stops it. When this happens, the speed will have to be reduced, and the saw returned to the shop and rehammered for the new speed.

SPEED.

In hammering a saw it is necessary to know the speed at which it is to be operated. No saw will run properly unless hammered for the correct speed. This is most important, but is very often overlooked by the millman when ordering. The best way to ascertain the speed of a saw is to use a speed indicator on

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the mandrel; but, if this is impossible, the following simple rule will be a help: Multiply the number of revolutions the engine makes per minute by the diameter in inches of the driving pulley, and divide by the diameter in inches of the small pulley on the saw mandrel. This gives the number of revolutions the saw runs per minute.

The speed of a saw in and out of the cut should be as nearly as possible the same, and certainly should not vary more than from 50 to 100 revolutions.

TABLE OF SPEED FOR CIRCULAR SAWS.

The following is a table of speeds for all circular saws, based on a velocity of 9,000 feet per minute at the rim. All our saws will be hammered for these regular speeds unless a special speed is given.

Size of Saw.	. Revs. per Min.	Size of Saw.	Revs. per Min.
8 inch		44 inch	840
10 " .		46 "	800
12 " .		48 ''	750
14 " .		50 "	725
16 " .		52 "	700
18 " .		54 "	675
20 " .		56 "	650
22 " .		58 "	625
24 " .		60 ''	600
26 " .		62 "	575
28 " .	1,285	64 "	
30 " .		66 "	545
32 " .	1,125	68 "	520
34 " .	1,058	70 (
36 " .		70	
38 " .		72 ··· ·····	500
40 " .		74 "	464
42 " .		76 "	448

FEED.

A knowledge of the feed to be used is most essential, because the greater the feed, the greater should be the number of teeth. Each tooth will only do a certain amount of work. When the work is increased, the number of teeth must be increased. It follows also that, the more feed desired, the greater must be the power; or, in other words, the larger the engine you must have.

If no hand or speed is given, a saw will be hammered for even hand and regular speed.

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HAND.

Mills are made either right or left handed, and saws must be hammered to correspond. When facing the saw as it cuts toward you, if the log passes on the right-hand side it is a righthand saw; if the log passes on the left-hand side it is a left-hand saw. All our saws are marked near the eye: "Log Side," and if, when placed on the mandrel, the log does not pass on that side of the saw, the saw should be returned to the shop and rehammered.



CUT OF A "LEFT HAND" CHISEL-TOOTH CIRCULAR SAW AT WORK.



CUT OF A "RIGHT HAND" CHISEL-TOOTH CIRCULAR SAW AT WORK.

INSERTING AND REMOVING CHISEL=BITS AND SHANKS.

Before inserting bits and shanks, the sockets of the saw should be well oiled and all dirt carefully removed. Do not use force; this means that the wrench should not be hammered or otherwise pounded, or the bits or shanks pounded in order to force them into place. It is sometimes difficult to remove shanks from saws that have been cutting gummy lumber, and in trying to start them the wrench is sometimes broken. To prevent this, place a blunt chisel or some similar tool at the heel of the shank and strike it a light blow with a hammer. This will start the

shank and bit sufficiently so that they can be removed without difficulty. As the cutting points of all our bits are carefully gauged, they make smoother lumber than the old-style solid saw. If, however, especially smooth work is desired, any bits that are found to be projecting may be relieved with a file. See pages 33 and 34 for suitable gauge and file.

TO SHARPEN BITS.

A set of bits, when once inserted and adjusted, should remain in place until worn out. To sharpen, file on the under side or

face, as explained in the accompanying diagram.

A little filing is all that is required. Be careful to keep the cutting edge straight and at right angles to the saw. After a bit



A. Throat. Keep rounded out.

B. Face. File very little; just enough to sharpen.

C. Back. File only enough to take off burr.

has been sharpened several times, it should be relieved or beveled on the sides, so as to keep the corners straight.

A FEW SUGGESTIONS WHEN SAWING FROZEN TIMBER.

Two things must be carefully guarded against when sawing frozen timber:

1st. The small fibres, if not perfectly severed from the log, are apt to rub against the saw and cause it to heat.

2nd. The fine dust passing between the saw and the log often freezes to the log, and so forces the saw out of the cut.

To overcome the first, keep the corners of the bits sharp and carefully beveled or relieved on the sides. A side file which leaves flat places on the sides of the bits should never be used. To avoid dust freezing to the log, insert new shanks with plenty of swage.

For winter sawing, always use a sharp beveled bit with a narrower cutting point than that used in summer.

When sawing some kinds of frozen timber a "flush" or "straight" shank can be used. This allows of cutting less kerf, as for instance, a $\frac{1}{4}$ inch bit in an 8 gauge saw.



Section of Chisel-Tooth Saw showing how the Bits and Shanks are inserted in the plate.



Note the manner in which bit and shank are held in place. The V-shaped edge of the socket holds bit and shank absolutely central with plate.

If after long use the sockets are found to be worn so that the shanks fit loosely, we are prepared to furnish shanks larger in the circle to allow for this wear.

Those 1-64 inch larger than regular are called Second Size.

Those 1-32 inch larger than regular are called Third Size.

It is important that shanks fit tightly at all times.

To fill an order for **Bits** we must know the **size**, the **gauge** and the **width** of the cutting-point desired.

To fill an order for Shanks we must know the catalogue number, also whether regular, second size or third size; the gauge, and, in the case of No. 2 Shanks, whether old or new style; and in the case of No. 2½, whether long or short.

No. 1 Chisel-Tooth Saw



Full-sized cut of No. 1 Chisel Bit and Shank, used for sawing Shingles, Laths or Barrel Staves, and in general use for Bench Work and Re-Sawing.

Diameter in Inches.	Gauge at Centre.	Gauge at Rim.	Greatest Number of Teeth that can be put in Saw.	PRICE.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.	Diameter in Inches.	Gauge at Centre.	Gauge at Rim.	Greatest Number of Teeth that can be put in Saw.	PRICE.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.
8	15	15	14	\$19.00	100	2	26	9	15	48	\$71.00	200	2
10	15	15	18	22.00	100	2	28	9	15	52	75.00	200	2
12	15	15	22	25.00	100	2	30	8	15	56	82.00	200	2
14	15	15	26	29.00	100	2	32	8	15	60	92.00	300	2
16	14	15	30	33.00	100	2	34	8	15	64	97.00	300	2
18	11	15	34	42.00	100	2	36	7	15	68	110.00	300	2
20	10	15	38	48.00	100	2	38	7	15	72	119.00	300	2
22	10	15	42	57.00	200	2	40	7	15	76	129.00	300	2
24	9	15	46	65.00	200	2		8					
	RT		4	15 mm	×o 1/6		ala ani	Jeh	- f		noint	TELEG COD	RAPH DE

INO. 1 "" utting point ... 9/64... 66 15....Backslide. CHISEL BITS 66 5/32 " 15 66 66Backward.

Price, $2\frac{1}{2}$ cents each.

No. 1 SHANKS 15 gauge, New Style, regular.....Rob. Price, 20 cents each.

We usually put as many teeth as possible in a No. 1 saw, but will make with any number desired. When saw is fitted to flange, there will be an extra charge, depending upon the size and style of flange. AWrench is included with each Saw.

SEND FOR DISCOUNTS.

No. 2 Chisel-Tooth Saws



Full-sized cut of Chisel Bit and Old-Style Shank for No. 2 Chisel-Tooth Saw. Full-sized cut of Chisel Bit and New-Style Shank for No. 2 Chisel-Tooth Saw.

THIS SIZE IS USED IN BOLTING, GANG, EDGER AND BENCH SAWS.

Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of BitsGiven With each Saw.	Extra Shanks Given With each Saw.	Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.
10	10	10	\$15.50	10	50	2	26	9	24	\$50.00	28	100	2
12	10	12	19.50	12	50	2	28	9	26	54.00	30	100	2
14	10	14	23.00	14	50	2	30	9	28	58.00	32	100	2
16	10	16	27.00	16	50	2	32	8	30	65.00	34	150	2
18	10	18	31.00	20	50	2	34	8	32	70.00	36	150	2
20	9	20	36.00	22	50	2	36	8	34	75.00	38	150	2
22	9	20	42.00	24	100	2	38	8	36	80.00	42	150	2
24	9	22	46.00	26	100	2	40	8	38	86.00	44	150	2

The gauges shown are standard. We are, however, prepared to make No. 2 Saws as thin as 13 gauge or as thick as 7 gauge.

A small additional charge for Saws beveled more than 2 gauges.

A Wrench is included with each Saw.

Prices for No. 2 Saws 42 inches in diameter and larger on application.

SEND FOR DISCOUNTS.

No. 2 CHISEL BITS TELEGRAPH

TELEGRAPH

								CODE
13	gauge,	5/32	inch	width	of	cutting p	oint	Bacon.
13		3/16	66	66	66	"	66	Badness.
13	" "	7'/32	66	66	66	6.6	66	Bald.
12	" "	3/16	66	66	، ۲	6.6	66	Bank.
12	66	7/32	66	66	، د	6.6	"	Rans
12	" "	1/4	66	"	cc	"	"	Bantize
11	6.6	$\frac{\hat{3}}{\hat{16}}$	"	66	ς د	" "	"	Baffler
11	"	7/32	66	66	ς ζ	6.6	"	Baggagge
11	"	1/4	"	٤.	ς ε	"	"	Baiting
10	"	$\frac{1}{7}$ /32	. د	66	ς ς		"	Balance
10	"	1/1	"	66	ς د		"	Balloon
10	"	1/4	"	66	٤ ٢		"	Dallarm
10	"	9/04	"		66		"	D-ll-J
9		1/4			,,			Ballad.
-9		9/32						Baneful.
- 9	6.6	5/16	66	6.6	66	6.6	66	Banner.
8	٤ ٢	1/4	66	66	66	6.6	"	Bashful.
8	6.6	9/32	6 6	66	66	6.6	"	Barter.
8	، د	5/16	ς د	66	، ۵		66	Batting.
7	66	9/32	66	66	66	" "	66	Bawbee.
7	66	5/16	66	6.6	"	6.6	66	Bane.

Price, 3 cents each.

No. 2 SHANKS

				CODE
13	gauge,	New Style,	regular	. Rival.
13	° '		2nd size	Ritual.
13	66	66 66	3rd size	Rigid.
12	66	66 66	regular	Rigor.
12	" "		2nd size	Riot.
12	66		3rd size	Risk.
11	66	66 66	regular	Rivulet.
11	66	c c C C C C C C C C C C C C C C C C C C	2nd size	Ricketv.
11	66	66 66	3rd size	Richness.
11	66	Old Style,	regular	Ribless.
11	66		2nd size	Ribbon.
11	66	66 66	3rd size	Reward.
10	66	New Style,	regular	Revolt.
10	"		2nd size	Revival.
10	66	66 66	3rd size	Review.
10	66	Old Style,	regular	Reversal.
10	66		2nd size	Revelry.
10	66	66 66	3rd size	Reunite.
-9	"	New Style,	regular	Reticule.
9	66		2nd size	Restless.
-9	66	66 66	3rd size	Resound.
9	66	Old Style,	regular	. Resolute.
-9	"		2nd size	Repulse.
-9	" "		3rd size	Reptile.
-8	" "	New Style,	regular	Reproach.
8	"		2nd size	Repress.
8	66	66 66	3rd size	Repose.
-8	"	Old Style,	regular	Replant.
8	66		2nd size	Repast.
8	66	66 66	3rd size	Renowned
7	" "	New Style.	regular	Remould.

Price, 25 cents each.

No. 21/2 Chisel-Tooth Saw



Full-sized cut of No. $2\frac{1}{2}$ Chisel Bit and Short Shank, used in Saws 42 inches in diameter and over.

Full-sized cut of No.2½ Chisel Bit and Long Shank, used in Saws 40 inches in diameter and less.

Diameter in Inches.	Gauge at Rim.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.	Diameter in Inches.	Gauge at Rim.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.
12	9	\$25.00	12	50	2	44	8	\$130.00	50	200	3
14	9	28.00	14	50	2	46	8	140.00	52	200	3
16	9	32.00	16	50	2	48	8	150.00	54	200	3
18	9	36.00	20	50	2	50	8	164.00	56	200	3
20	9	40.00	22	50	2	52	7	182.00	60	300	3
22	9	48.00	24	100	2	54	7	204.00	62	300	3
24	9	52.00	26	100	2	56	7	226.00	64	300	3
26	9	58.00	28	100	2	58	7	248.00	66	300	3
28	9	64.00	30	100	2	60	7	272.00	70	300	3
30	9	70.00	32	100	2	62	6	296.00	74	300	3
32	8	78.00	34	150	2	64	6	326.00	76	300	3
34	8	84.00	36	150	2	66	6	356.00	78	300	3
36	8	92.00	38	150	2	68	6	390.00	80	300	3
38	8	101.00	42	150	2	70	6	430.00	82	300	3
40	8	110.00	44	150	2	72	6	472.00	84	300	3
42	8	120.00	46	200	3						

The gauges shown are standard. We are, however, prepared to make No. 2½ Saws as thin as 10 gauge or as thick as 6 gauge. We usually put in as many teeth as possible in a No. 2½ Saw, but will make with any number desired. A small additional charge for saws beveled more than 2 gauges. A Wrench is included with each Saw.

SEND FOR DISCOUNTS.

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No. $2\frac{1}{2}$ CHISEL BIT'S

6 6	"	$\frac{11}{3}/8$	"	"				Braun.	1.
7		$\frac{3}{8}$						Bramb	le.
7	- "	11/32	"	"	"	" "	66	Breath	ing.
7	" "	-5/16	66	" "	66	6.6	66	Breath	e.
7	" "	-9/32	" "	" "	"	" "	66	Breast	ing.
8	" "	$\frac{5}{16}$	66	"	"	" "	66	Bread.	
8	66	-9/32	٤ ۵	6.6	"	" "	6.6	Breast	
8	٢ ٢	1/4	66	" "	"	6.6	66	Brawny	v.
9	66	5/16	66	6.6	"	4.6	66	Brawl.	
9	٤٥	-9'/32	66	"	" "	" "	" "	Brave.	
9	" "	1/4	66	66	"	6 6	٤ ۵	Brat.	
9	" "	7'/32	٤ ٢	66	" "	4.6	" "	Brassy	
10	66	9/32	، ۲	66	٤ ٢	" "	" "	Brandy	
10	° ° °	1/4	66	66	" "	"	÷	Braid.	
10	gauge,	7/32	inch	width	of	cutting	point	tBradsh	aw.
								TELEGR	APH F



				CODE
10	gauge,	short,	regular	
10	0 .2 /	"	2nd size	
10	66	66	3rd size	Remind.
10	"	long,	regular	
10	"		2nd size	
10	66	" "	3rd size	Reluct.
9	66	short.	regular	
ğ	66		2nd size	
9	66	66	3rd size	
9	66	long.	regular	
- 9	66		2nd size	
9	" "	"	3rd size	
8	"	short.	regular	Relay.
8	6.6		2nd size	Relatrix.
8	66	"	3rd size	Relapse.
8	66	long.	regular	
8	"	"	2nd size	
8	" "	"	3rd size	
7	"	short.	regular	Regild.
7	4.4	"	2nd size	Regent
7	"	66	3rd size	Regatta
$\dot{7}$	"	long.	regular	Refrain
$\dot{7}$	" "		2nd size	Reformed
7	6.6	6.6	3rd size	Reflect
6	6.6	short.	regular	Reflexion
6	6.6		2nd size	Reflow.
6	66	"	3rd size	Refold
6	66	long	regular	Refraction
6		,	2nd size	Refresh
6	"	"	3rd size	Refuge.
0			510 5120	

Price, 25 cents each.

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No. 3 Chisel Tooth Saw



Full-sized cut of Chisel Bit and Shank for No.3 Chisel-Tooth Saw.

This is a good all-around size; especially adapted for hard wood and frozen timber.

Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.	Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.
16	10	12	\$27.00	12	50	2	46	8	32	\$110.00	40	200	3
18	10	14	30.00	14	50	2	48	8	34	120.00	42	200	3
20	9	14	34.00	16	50	2	50	8	36	134.00	44	200	3
22	9	16	38.50	18	100	2	52	7	38	156.00	44	300	3
24	9	18	42.00	18	100	2	54	7	40	174.00	46	300	3
26	9	18	46.00	20	100	2	56	7	42	194.00	48	300	3
28	9	18	50.00	22	100	2	58	7	44	212.00	50	300	3
30	9	20	54.00	24	100	2	60	7	46	230.00	52	300	3
32	8	22	61.00	26	150	2	62	6	48	260.00	54	300	3
34	8	22	66.00	28	150	2	64	6	48	290.00	56	300	3
36	8	24	72.00	30	150	2	66	6	50	320.00	58	300	3
38	8	24	78.00	32	150	2	68	6	52	350.00	60	300	3
40	8	26	84.00	34	150	2	70	6	54	380.00	62	300	3
42	8	28	94.00	36	200	3	72	6	56	420.00	64	300	3
44	8	30	102.00	38	200	3							

The gauges shown are standard. We are, however, prepared to make No. 3 Saws as thin as 11 gauge or as thick as 6 gauge, but cannot guarantee more than the workmanship and material of Saws 48 inches in diameter and larger, if thinner than 10 gauge. A small additional charge for Saws beveled more than 2 gauges.

A Wrench is included with each Saw.

SEND FOR DISCOUNTS.

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No. 3 CHISEL BITS

								TELEGRAPH CODE
11	gauge.	3/16	inch	width	of	cutting i	ooint	Breeches.
11	"	7/32	66	66	"	"	66	Breastol.
11	"	1/4	"	66	، ۲	66	66	Breathe
10	"	$\frac{3}{16}$	"	، د	، د	66	"	Brooch.
10	"	$\frac{7}{32}$	"	66	"	"	66	Barber.
$\tilde{10}$	٠.	1/4	"	66	66	66	66	Barmaid
10	٤ د	$\frac{9}{32}$	"	، ۵	، د	66	"	Barometer.
- 0	"	$\frac{7}{32}$	"	66	، د	66	د د	Brunette
9	٠.	1/4	"	66	، د	66	66	Breeze.
9	"	17/64	"	66	"	"	66	Baritone.
9	"	9/32	" "	66	، ۲	66	66	Baseness
9	"	5/16	"	66	، ۵	66	66	Bastard.
8	، د	1/4	66	66	، ۲	66	٤ ٢	Bayonet.
8	66	$\frac{9}{32}$	"	66	٤ ۵	66	"	Bawling.
8	"	5/16	"	66	، ۲	66	٢.	Bearish
8	٤ ډ	11/32	"	66	، ۲	66	66	Beatific.
8	٤ د	3/8	"	66	، ۲	66	"	Browbeat.
7	٤ د	9/32	"	، ۵	66	66	66	Beaux.
7	"	5/16	"	66	، ۲	66	"	Bedew.
7	66	11/32	"	66	<i>د</i> د	66	66	Befit.
7	٤ د	3/8	"	"	، ۲	"	66	Beggar
6	"	5/16	"	٤، ٢	، ۲	66	66	Bracket.
6	66	11/32	"	66	<i>د</i> د	66	66	Bramble.
6	٤ ٢	3/8	"	66	، د	"	"	Brewer.
6	٤ ٢	13/32	"	66	، ۵	"	66	Brigade.

Price, 3 cents each.

No. 3 SHANKS

			CODE
11	gauge,	regular	Rabble.
11	° ° ° °	2nd size	Rare.
11	" "	3rd size	Rabid.
10	" "	regular	Racer.
10	" "	2nd size.	. Rachis.
10	"	3rd size	Racket.
9	" "	regular	. Radical.
9	"	2nd size	Radish.
9	" "	3rd size	Radula.
8	"	regular	Raffle.
8	٤ د	2nd size	Rafter.
Š	" "	3rd size	Ragged.
7	، ،	regular	Ragman.
7	"	2nd size	Ragstone.
7	، د	3rd size	Rainbow.
6	66	regular	Rainless.
6	٤ ٢	2nd size	Raisin.
6	66	3rd size	Raking.

Price, 30 cents each.

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No. 4 Chisel-Tooth Saw

Full size cut of Chisel Bit and Shank for No. 4 Chisel-Tooth Saw.

The great throat room of this size makes it most suitable for cutting soft timber in Southern Countries, although it may be used for sawing hard wood.

Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.	Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.
22	9	12	\$ 38 50	14	100	2	18	8	30	\$120.00	36	200	2
24	9	14	42.00	16	100	$\frac{2}{2}$	50	8	32	134.00	38	200	3
$\overline{26}$	9	14	46.00	16	100	$\overline{2}$	52	7	34	156.00	40	300	3
28	9	16	50.00	18	100	2	54	7	36	174.00	42	300	3
30	9	16	54.00	20	100	2	56	7	36	194.00	42	300	3
32	8	18	61.00	22	150	2	58	7	38	212.00	44	300	3
34	8	20	66.00	24	150	2	60	7	40	230.00	46	300	3
36	8	20	72.00	26	150	2	62	6	40	260.00	48	300	3
38	8	22	78.00	28	150	2	64	6	42	290.00	50	300	3
40	8	24	84.00	30	150	2	66	6	44	320.00	52	300	3
42	8	26	94.00	32	200	3	68	6	44	350.00	54	300	3
44	8	26	102.00	34	200	3	70	6	46	380.00	54	300	. 3
46	8	28	110.00	36	200	3	72	6	48	420.00	56	300	3

The gauges shown are standard. We are, however, prepared to make No. 4 Saws as thin as 9 gauge or as thick as 6 gauge. A Wrench is included with each Saw.

SEND FOR DISCOUNTS.

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No. 4 CHISEL BITS

TELEGRAPH

FIECDADU

								CODE
9	gauge,	1/4	inch	width	of	cutting	point	Belated.
9	44	9/32	٤ ۵	٤ ٢	"		66	Beloved.
9	66	5/16	"	٤ ٢	"	٠٠	"	Bemoan.
8	دد	1/4	"	٠٠	"	، د	"	Becalm.
8	٠٠	9/32	"	<i>د د</i>	"	٠.	"	Benefice.
8	۰۵	5/16	، ،	٠٠	¢۵	"	"	Beseech.
8	٠٠	11/32	"	<i>د</i> د	، ۵	٠ د	66	Bestow.
7	د د	9/32	، د	"	"	"	66	Bewail.
7	"	5/16	" "	66	، د	"	"	Biasness.
7	، ۲	11/32	"	٠٠	<i>د</i> د	"	"	Biddy.
7	"	3/8	"	"	"	"	"	Bigness.
6	"	5/16	"	"	، د	"	"	Binding.
6	"	11/32	، د	٠ ٢	"	"	"	Birthday.
6	"	3/8	، د	"	، ۵	٠٠	٠٠	Bitterly.
6	"	25/64	٤ د	"	"	"	"	Biscuit.
6	"	13/32	، ۲	"	"	"	"	Bivalve.



No. 4 SHANKS

			CODE
9	gauge,	regular	Rakish.
9	"	2nd size	.Rally.
9	٤ ٢	3rd size	.Ramble.
8	٠٠	regular	.Ramoon.
8	"	2nd size	.Rampage.
8	٤ ٢	3rd size	.Ramrod.
$\overline{7}$	66	regular	.Rancid.
$\overline{7}$	٤ ٢	2nd size.	.Random.
$\overline{7}$	٤٢	3rd size	.Ranger.
6	"	regular	.Ransack.
6	٤٢	2nd size	.Rapacity.
6	" "	3rd size	.Raphides.

Price, 35 cents each.

Our signature is on every box of Bits and our name etched on every Saw. The genuine Hoe Saws, Bits and Shanks are made only by us in New York, and are fully guaranteed.

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Full-sized cut of Chisel Bit and Shank for No. 5 Chisel-Tooth Saw.

This size is unexcelled for use in the Far West, cutting heavy timber, such as "Red Wood," where the saw is buried in the log.

Diameter in Inches.	Gauge at Rim.	Standard Number of Tecth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.	Diameter in Inches.	Gauge at Rim.	Standard Number of Teeth in Saw.	PRICE.	Greatest Number of Teeth that can be put in Saw.	Number of Bits Given With each Saw.	Extra Shanks Given With each Saw.
22 24	8 8	$ \begin{array}{c} 10 \\ 12 \\ 12 \end{array} $	\$38.50 42.00	12 14	$100 \\ 100 \\ 100$	$\frac{2}{2}$	48 50	$\frac{7}{7}$	26 28	\$120.00 134.00	28 30	200 200	3
26	8	12	40.00	14	100	2	52	6	30	150.00	32	300	3
$\frac{20}{30}$	8	14	54.00	18	100	2	56	6	32	194.00	34	300	3
32	8	16	61.00	20	150	2	58	6	34	212.00	36	300	3
34	8	18	66.00	20	150	2	60	6	34	230.00	36	300	3
36	8	18	72.00	22	150	2	62	6	36	260.00	38	300	3
38	8	20	28.00	22	150	2	04	5	36	290.00	38	300	3
40	7	$\frac{20}{22}$	94.00	24	200	$\frac{2}{3}$	68	5	38	350.00	40	300	3
44	7	$\frac{1}{24}$	102.00	$\frac{20}{26}$	200	3	70	5	42	380.00	44	300	3
46	7	24	110.00	28	200	3	72	5	42	420.00	44	300	3

The gauges shown are standard. We are, however, prepared to make No. 5 Saws as thin as 8 gauge or as thick as 5 gauge. A Wrench is included with each Saw.

SEND FOR DISCOUNTS.

No. 5 CHISEL-BITS

								CODE
9	gauge,	1/4	inch	width	of	cutting	point	Bland.
9	66	9/32	<i>د د</i>	د د	٢ ٢	٠.	٢ ٢	Blanket.
8	٠ د	9/32	٢ ٢	"	"	" "	" "	Blindfold.
8	66	5/16	"	٠ ٢	٢.	"	"	Blood.
$\overline{7}$	66	5/16	٤ د	د د	"	٠.	"	Bluff.
7	۰ د	11/32	، ۲	"	"	"	" "	Bobance
6	"	11/32	66	د د	"	۰ د	"	Boggle.
6	٤ د	3/8	٤٢	٤ ٢	"	٤ ٢	"	Bobtail.
6	66	25/64	"	٠ د	، د	٤ ٢	"	Bombastic.
5	**	25/64	"	د د	"	٤ د	"	Botanist.
5	66	7/16	، د	"	"	6 6	"	Booby.
								-

Price, 4 cents each.

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No. 5 SHANKS

			CODE
9	gauge,	regular	.Rasp.
9	"	2nd size	.Rasper.
9	" "	3rd size	.Raspatory.
8	"	regular	.Rational.
8	" "	2nd size	Rattan.
8	٢ ٢	3rd size	Rattle.
7	۶ ۵	regular	.Raven.
7	٤ ٢	2nd size	.Ravish.
7	66	3rd size	. Rawbone
6	66	regular	.Rawhide.
6	٤ ٢	2nd size	Raillery.
6	66	3rd size	Radix.
5	"	regular	Raddle.

Price, 50 cents each.

Large stock of Chisel-Bits and Shanks always on hand. Buy the genuine HOE Chisel-Bits and Shanks. Beware of imitations. Our Chisel-Bits and Shanks are dropped forgings, machined mathematically correct, and of perfect temper. Chisel-Bits are sharpened ready for use when they leave our works.

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Chisel-Tooth Rift Saws



Diameter in Inches.	Gauge.	Four Arm With 4 No. 3 Teeth.	Six Arm With 6 No. 3 Teeth.
14	8	\$15.00	\$18.00
18	8	19.00	20.00
20 22 24	8	23.00	26.00 29.00

Rift Saws are also made with No. 2, No. $2\frac{1}{2}$ or No. 4 Teeth, and any gauge or number of arms desired. Prices on application.

Chisel-Tooth Saws, from 6 to 12 inches in diameter, for cutting grooves any width of cutting point desired. Prices on application.

Our Chisel-Tooth Edger Saw is recommended by all the leading manufacturers of Edging Machines. It is unsurpassed for the purpose.

SEND FOR DISCOUNTS.

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Chisel-Tooth Stone Saw



	TELEGRAPH CODE
Bits for $\frac{1}{4}$ -inch Saw, $\frac{7}{16}$ -inch width of cutting point	Masked.
Shanks for 1/4-inch Saw	Mattress.
Bits for ³ / ₈ -inch Saw, ⁵ / ₈ -inch width of cutting point	Mastiff.
Shanks for 3%-inch Saw	Mastodo

The most successful inserted-tooth stone saw manufactured.

No other stone saw approaches it in lasting qualities. The bits are forged from the best imported tool steel and are diamond pointed, thereby insuring a smooth cut and sharp corners.



REPAIRING CHISEL=TOOTH SAWS AND MAKING OVER SOLID SAWS INTO CHISEL=TOOTH.

We are exceptionally well equipped to repair Chisel-Tooth Saws, and are able to do the work quickly and thoroughly.

If, through constant wear, a saw becomes weak and limber, the sockets out of round, and the teeth show a tendency to break or fall out, send it to us and we will make it run like new.

When sending saws to be repaired, be careful to mark your name, as well as ours, on the box, for the purpose of identification. If desired, the saw will be carefully examined and an estimate submitted before the work is commenced.

Always send the old shanks with the saw, unless you desire us to furnish a new set. When a saw is being hammered the shanks must be inserted.

We make a specialty of cutting down solid and inserted tooth saws of other makes and inserting our teeth. This reduces the diameter from two to five inches. The old teeth must be entirely cut away, and the reduction in diameter depends upon their depth.

We also make a specialty of welding on the shoulders of Inserted-Tooth Saws that have been broken off by accidentally running against iron or stone. We can weld them, making them practically as good as new, provided they are not broken too deep into the plate. If they are broken too deep to weld, we can often make a satisfactory job by inserting a piece of steel and boring a new socket.

All breakage in repairs is at the risk of the owner. We use every effort and care possible, but some plates are brittle and difficult to handle, and occasionally one cracks without warning.

After a saw has passed through a fire, if there is any life left in the plate, it can be repaired and made almost, if not quite, as good as new. As the work on burned saws varies, we cannot quote prices without seeing the saw.

Repairing Chisel-Tooth Saws and Making Over Solid Saws into Chisel-Tooth Saws

Diameter in Inches.	Price for Cutting Down and Inserting No. 2 Teeth.	Price for Cutting Down and Inserting No. 2½ Teeth.	Price for Cuting Down and Inserting Nos. 3, 4 and 5 Teeth.	Number of Bits given With cach Saw.	Extra Shanks Given With each Saw.	Price for Hammering Only.	Price for Re- Grinding, per Gauge.
8				50	2	\$0.60	\$0.70
10	\$12.00			50	2	.80	.80
12	14.00	\$19.00		50	2	1.00	.90
14	17.00	22.00		50	2	1.20	1.05
10	20.00	25.00	\$20.00	50	2	1.40	1.20
10	25.00	20.00	22.00	50	2	2.00	1.40
22	30.00	36.00	24.00	100	2	2.30	1.80
$\frac{22}{24}$	34.00	40.00	30.00	100	$\frac{2}{2}$	2.60	2.10
26	38.00	46.00	34.00	100	$\frac{1}{2}$	2.90	2.40
$\overline{28}$	42.00	52.00	38.00	100	$\overline{2}$	3.20	2.70
30	44.00	56.00	42.00	100	$\overline{2}$	3.60	3.10
32	49.00	62.00	46.00	150	2	4.00	3.50
34	53.00	67.00	50.00	150	2	4.40	3.90
36	57.00	74.00	54.00	150	2	4.90	4.30
38	61.00	82.00	58.00	150	2	5.60	4.70
40	65.00	88.00	62.00	150	2	6.40	5.20
42		94.00	68.00	200	3	7.20	5.70
44		100.00	72.00	200	3	8.00	6.20
40		106.00	76.00	200	3	9.00	0.70
48		109.00	80.00	200	3	10.00	7.20
50	•••	114.00	80.00	200	ರ ೧	12.25	7.00
52		142.00	110.00	200	0	12.25	8.00
56		142.00	120.00	300	2	14.75	8.80
58		162.00	120.00	300	3	16.00	9.20
60		176.00	140.00	300	3	17.25	9.60
62		188.00	152.00	300	3	18.50	10.00
64		206.00	170.00	300	3	19.75	10.50
66		231.00	195.00	300	3	21.00	11.00
68		255.00	215.00	300	3	22.75	11.50

The above prices are based on the diameters the saws will be when finished, not on their original diameters.

No extra charge for grinding cut-down saws one gauge.

A cut-down saw, when finished, is highly polished, and, if the plate is perfect, makes practically a new saw.

When re-grinding, add price for hammering.

All breakage at risk of owner.

SEND FOR DISCOUNTS.

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Solid Saws



When ordering solid saws, please state style of teeth desired, and give the sample number, as shown on accompanying cut.

An Order Blank is attached to the last page of the catalogue.

Diameter in Inches.	Gauge.	PRICE.	Cross Cuts, Extra for Setting and Sharpening.	Rips, Extra for Setting and Sharpening.	Extra, per Gauge.
6	18		\$0.65	\$0.30	\$0.10
8	18		.70	.35	.10
10	16		.80	.40	.13
12	15	\$5.00	• .90	.45	.17
14	15	5.75	1.00	.50	.21
16	14	6.50	1.10	.60	.25
18	13	7.50	1.20	.70	.30
20	13	9.00	1.30	.80	.35
22	12	11.00	1.40	.90	.45
24	11	13.00	1.50	1.00	.55
26	11	15.00	1.60	1.10	.05
28	10	17.00	1.80	1.20	.80
30	10	19.00	2.00	1.30	.90
32	10	22.00	2.20	1.40	1.00
34	9	25.00	2.40	1.00	1.20
30	9	28.00	2.00	1.80	1.40
38	9	26.00	2.00	2.00	1.75
40	9	42.00	3.20	2.20	2.00
42	0	50.00	3.00	2.50	2.50
44	0	60.00	3.90	2.00	3.00
40	8	70.00	4.20	3.10	4.00
50	7	80.00	4.50	3 70	4.00
52	+ 7	90.00	5.10	4.00	5.00
51	$\frac{1}{7}$	100.00	5.40	4.00	6.00
56	7	115.00	5 70	4.60	7.00
58	$\frac{1}{7}$	130.00	6.00	4.90	8.00
60	6	145.00	6.30	5.20	9.00
62	ő	160.00	6.60	5.50	10.00
64	ő	180.00	6.90	5.80	12.00
66	6	200.00	7.20	6.10	15.00
68	5	225.00	7.50	6.40	18.00
70	5	255.00	7.80	6.70	21.00
72	5	290.00	8.00	7.00	24.00
74	5	330.00	8.00	7.30	29.00
76	5	375.00	8.00	7.60	34.00

Solid Saws

No extra charge for beveling one gauge. A slight additional charge is made for beveling more than one gauge.

No extra charge for saws one gauge heavier than list.

A slight additional charge for saws 24 inches and less when made more than one gauge thinner than list.

Saws 48 inches and larger, when made thinner than 10 gauge, are not guaranteed, and there is an extra charge.

SEND FOR DISCOUNTS.

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Solid Shingle Saws



RIGHT-HAND.

LEFT-HAND.

Ground to an even thickness to edge of flange and be veled from there to 14 gauge on the rim.

Diameter.	PRICE.	Diameter.	PRICE.
26	\$30.00	44	\$72.00
28	32.00	46	85.00
30	34.00	48	100.00
32	36.00	50	115.00
34	40.00	52	135.00
36	44.00	54	155.00
38	50.00	56	175.00
40	55.00	58	195.00
42	60.00	60	215.00

When ordering a Shingle or Heading Saw, please be careful to give the following information:

Diameter.

Gauge or thickness on Rim, also at Centre.

Name of the machine it is for, and whether right-hand or left-hand. Speed.

State if you desire a special number of teeth.

If possible, send the old flange and screws, so that the saw may be properly fitted to it. If this is not possible, make a full-sized paper impression or paper templet of the flange, and send a sample of each size screw used.

Show on the paper templet the countersunk side of saw; also the direction in which the teeth run.

Price for Fitting Saw to Flange, \$2.50, net.

When speed is not given, all saws will be hammered for regular speed.

SEND FOR DISCOUNTS.

Diameter, Inches.	Gauge.	PRICE.	Diameter, Inches.	Gauge.	PRICE.
16	13 x 17	\$10.00	28	9 x 13	\$23.00
16	$12 \ge 16$	10.50	28	9 x 14	23.75
16	$11 \ge 15$	11.00	28	8 x 13	24.50
18	$12 \ge 16$	12.00	30	9 x 13	26.50
18	11 x 15	12.50	30	9 x 14	27.00
18	$12 \ge 17$	13.00	30	8 x 13	27.75
$\dot{20}$	12×16	14.00	32	9 x 13	29.00
20	$11 \ge 15$	14.50	32	9 x 14	29.50
20	$12 \ge 17$	15.00	32	8 x 13	30.00
22	11 x 15	16.00	34	9 x 13	32.00
22	$10 \ge 14$	16.50	34	8 x 13	32.75
22	$11 \ge 16$	17.00	34	8 x 14	34.00
24	$10 \ge 14$	18.00	36	8 x 13	36.50
24	9 x 13	18.50	36	8 x 14	38.00
24	10 x 15	19.00	36	7 x 14	41.00
26	10 x 14	20.00	38	8 x 12	42.00
26	9 x 13	20.50	38	8 x 13	42.50
26	10 x 15	21.00	38	7 x 13	44.00

Re-Sawing or Siding Saws

When fitted to flange an additional charge will be made, varying according to the diameter of saw and the style of flange.

Metal Saws

Diameter, Inches.	PRICE.	Diameter, Inches.	PRICE.
4	\$2.40	10	\$6.40
5	3.00	12	7.40
6	3.60	14	9.00
7	4.20	16	10.50
8	4.80	18	12.50
9	5.60	20	15.00

Circular Saws for Slate, Horn or Ivory made to order; also Saws for Railroad Iron.

Circular Knives and Cutters of all descriptions made to order.

Circular Saws for Cutting Grooves.

Electrotypers' and Photo-Engravers' Saws a specialty.

SEND FOR DISCOUNTS.

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Repairing Solid-Tooth Circular Saws

Diameter.	Hammering.	Re-Grinding, per Gauge.	Gumming and Hammering.	Re-Toothing and Hammering.
6	\$0.40	\$0.60	\$1.00	\$1.20
8	.45	.70	1.10	1.40
10	.50	.80	1.20	1.60
12	.60	.90	1.30	1.80
14	.70	1.00	1.40	2.10
10	.80	1.15	1.50	2.50
18	.95	1.35	1.70	3.00
20	1.10	1.55	1.90	3.50
22	1.25	1.75	2.20	4.00
24	1.50	1.95	2.50	4.50
20	1.75	2.15	2.80	5.00
20	2.00	2.00	3.10	5.50
30	2.23	2.35	3.30	6.50
34	3.00	2.00	4.00	7 10
36	3.50	3.10	4.30	7.10
38	4 00	3 65	6.00	8 20
40	4.50	3.80	7.00	8 70
42	5.00	4 00	8.00	0.25
	5.50	4.30	9.00	10.00
46	6.00	4.70	10.00	11.00
48	6.50	5.10	11.00	12.00
50	7.00	5.50	12.00	13.00
52	8.00	6.00	13.00	14.50
54	9.00	6.75	14.00	16.00
56	10.00	7.40	15.00	17.50
58	11.00	8.05	16.00	19.00
60	12.00	8.90	17.00	20.00
62	13.50	9.70	18.00	21.00
64	15.00	10.50	19.00	22.00
66	16.50	11.35	21.00	24.00
68	18.00	12.10	23.00	26.00
70	20.00	12.95	26.00	28.00
72	22.00	13.75	29.00	31.50
74	26.00	15.00	32.00	35.00
76	30.00	16.50	36.00	38.50

When saw is to be ground, add price for hammering to price of grinding. All breakage at risk of owner.

SEND FOR DISCOUNTS.

Duplex Swage or Upset





Wrenches for Inserting and Removing Bits in Chisel-Tooth Saws

Shows our Latest Improved Chisel-Bit Wrench, which supports the pins on both sides, and so prevents their being shorn off or slipping.

Wrenches.								Price.	
For No. 2	Pattern	Saws						\$ 0.60	each.
" No. $2\frac{1}{2}$	"	"						 .60	66
" No. 3	"	"					• • • • • •	 .70	"
" No. 4	"	"						 .80	"
Old Style W	rench fo	r No.	1 Pattern	Saws				 .40	"
66 66		No.	5"	66	•••••	 .		 .80	"

Special Files for Chisel-Tooth Saws



FULL-SIZED END VIEW OF FILE No. 1

8	inches	long,	price	per	dozen	\$5.	50
9	"	"	66	66	٤٢	6.3	30



FULL-SIZED END VIEW OF FILE No. 2

8	inches	long,	price	per	dozen	 	 \$5	.4	0						
9	66	٠ د		"	"	 		 	 	 	 	 	 5	.7	5



FULL-SIZED END VIEW OF FILE No. 3

SEND FOR DISCOUNTS.

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Stubb's Standard Wire Gauge



Please Order your Saws by this Gauge.

GAU	GE.		
No.	$1 \dots 5/16$	inch	scant.
No.	$2\ldots .9/32$	" "	full.
No.	$3\ldots 1/4$	" "	"
No.	$4\ldots 15/64$	" "	с с
No.	$5 \dots 7/32$	" "	" "
No.	$6 \dots 13/64$	" "	
No.	$7\ldots 3/16$	"	scant.
No.	85/32	" "	full.
No.	$9\ldots .9/64$	66	"
No.	101/8	" "	"
No.	111/8	66	scant.
No.	$12\ldots 7/64$	"	
No.	$13 \dots 3/32$	"	full.

GAUG	E.				
No.	14		.5/64	inch	full.
No.	15		.5/64	66	scant.
No.	16		.1/16	"	full.
No.	17		.1/16	"	scant.
No.	18		.3/64	" "	full.
No.	19	• • • •	.3/64	" "	scant.
No.	20		.1/32	" "	full.
No.	21		1/32	<i>د د</i>	<i>с с</i>
No.	22		.1/32	"	scant.
No.	23		. 1/32	"	"
No.	24		. 1/32	"	<i>د د</i>
No.	25		. 1/64	"	full.
No.	26		1/64	"	

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R. Hoe & Co.'s Telegraphic Cypher Code for Use in Ordering Saws.

The following example will show how to order a Chisel-Tooth Saw by telegraph: When can you ship 56-inch saw, 6 gauge at centre, 7 gauge on rim, with 40 No. 3 teeth. It is to have a 2-inch centre hole and two $\frac{5}{8}$ -inch pin holes on a 3-inch circle; right-hand; and to run 650 revolutions per minute on a $3\frac{1}{2}$ -inch feed.

The code words for the above are as follows: Wisdom, Camera, Halberd, Day, Pagan, Standard, Hamlet, Effect, Beacon.

TELEGRAPHIC CODE

When can you ship.....Wisdom. What is the price of a.....Welfare.

DIAMETER OF SAW

8	inches i	n diamete	erCabin.	42	inches i	n diamete	rCaptain.
10	"	" "	Cabalist.	44	" "	66	Caloric.
12	"	" "	Cab.	46	" "	"	Calumet.
$1\overline{4}$	" "	" "	Cabinet.	48	"	66	Caloist.
$\overline{16}$	"	" "	Cackler.	50	"	61	Careful.
18	" "	"	Cadence.	52	"		Cambric.
$\overline{20}$	" "	6 6	Cajolery.	54	" "	٤ ٢	Cargo.
$\overline{22}$	" "	" "	Calcine.	56	" "	٤ ٩	Camera.
$\overline{24}$	" "	"	Calculus.	58	"	" "	Campaign
$\overline{26}$	"	" "	Camel.	60	66	"	Cancer.
$\overline{28}$	c	" "	Caldron.	62	"	٤ ٢	Canine.
$\overline{30}$	"	٠ د	Calender.	64	" "	٤،	Canopy,
32	44	" "	Calidity.	66	" "	66	Cutlet.
34	" "	"	Caliph.	68	" "	" "	Capulet.
36	"	" "	Calipers.	70	" "	"	Carpet.
38	"	" "	Callons.	72	"	66	Concrete.
40	66	66	Calm				

GAUGE

6	gauge	at centre	and 6	gauge	at rim.	
6	°	6.6	7	о <i>й</i>	"	Halberd.
6	" "	" "	8	"	α,	Halibut.
7	" "	s. 6	7	"	" "	
7	" "	، ،	8	" "	"	Health.
7	"	6.6	9	، د	" "	
8	"	66	8	"	"	Hoary.
8	"	66	ğ	66	"	
8	"	٤،	10	"	، د	Human.
9	"	"	9	66	، ۵	
9	"	٢.	10	"	"	
10	" "	"	10	"	"	
11	" "	٤ ٢	11	"	، د	
13	66		13	" "	"	

10	teeth	1	Daffodil.	46	teeth		Decalogue.
12	" "		Damage.	48	" "		Decamp.
14	"		Dagger.	50	"		Decency.
16	" "		Dairy.	52	" "		Decisive.
18	"		Damask.	54	" "		Decoction.
20	"		Dame.	56	"		Decompose
22	"		Damsel.	58	" "		Decoy.
24	"		Dapper.	60	" "		Deepness.
26	" "		Daring.	62	"		Defeater.
28	"		Dastard.	64	"		Defile.
30	"		Dashing.	66	" "		Dejected.
32	"		Dative.	68	" "		Delate.
34	"		Dauntless.	70	" "		Delicacy.
36	"		Dazzle.	72	" "		Delight.
38	"		Deacon.	$\overline{74}$	" "		Delude.
40	"		Day.	76	66		Demented.
42	"		Dealer.	78	"		Dental.
44	66		Debark.	As	many	as possible	Demean.
			1				

NUMBER OF TEETH

SIZE OF MANDREL HOLES

1 i	nch c	entre hole	eAbacot.	$ 2\frac{1}{4}$ i	nch c	entre hole	eAbject
$1\frac{1}{8}$	"	"	Abanga.	$2\frac{1}{2}$	"	" "	Abnormal.
$1\frac{1}{4}$	"	"	Abase.	$2\frac{3}{4}$	"	" "	Abrupt.
$1\frac{1}{2}$	"	"	Abbot.	3	"	، د	Abstinence.
$1\frac{3}{4}$	" "	"	Abdicate.	$3\frac{1}{4}$	"	" "	Abyss.
2	" "	" "	Abed.	$3\frac{1}{2}$	"	" "	Accent.
$2\frac{1}{16}$	"	"	Abetting.	$3\frac{3}{4}$	"	"	Acclimate.
$2\frac{1}{8}$	"	٠٠	Abhor.	4	"	" "	Aching.

SIZE OF PINHOLES

$\frac{1}{2}$	inch	pinhol	esFaculty.	$\frac{11}{16}$	inch j	pinhol	esFrank.
$\frac{9}{16}$	"	"	Faded.	$\frac{3}{4}$	" "	" "	Frenzy.
5/8	٠٠	"	Fatal.				

CIRCLE PINHOLES ARE ON

Pinholes	are	3	inches	from	centre	to	centre	Gain.
"	"	$3\frac{1}{8}$	3	"	"	"	66	Gable.
"	، د	$3\frac{1}{4}$	66	"	66	"	٢ ٢	Gale.
"	"	33/2		"	66	، د	۲ ۵	Galaxy.
"	"	31/	"	"	66	"	"	Gallery.
"	"	35%	66	"	66	"	٢ ٩	Galvanism
"	"	33/		، د	" "	"	"	Gamble.
" "	"	37/		"	"	"	" "	Genuine.
· · ·				-				

2-inch centre hole and two 3%-inch pin holes on a 3-inch circle.....Standard.

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CIRCLE PINHOLES ARE ON

inholes	are	4	inches	from	centre	to	centreGammon.
" "	"	$4\frac{1}{8}$	8	("	Gander.
" "	"	$4\frac{1}{4}$	£ "	4		"	Garden.
65	"	$4\frac{3}{8}$	3	4	. c	\$6	Garment.
"	"	41/2	2 "	6	c	"	Garnish.
" "	"	$4\frac{5}{8}$	3 66	6	۰ <i>۵</i>	"	Garrett.
66	"	$4\frac{3}{4}$	"	6	¢	**	Gazer.
" "	"	$4\frac{7}{8}$	3 66	"	. c	"	Glad.
"	"	5	"	6	6	"	Goblin.

REVOLUTION OF SAW PER MINUTE

Even Hand.....Heathen.

400 re	evolutio	onsEarl.	700 re	evolutio	nsEffeminate.
425	"	Each.	725	"	Eaves.
450	"	Earnest.	750	"	Embark.
475	66	Earth.	775	"	Egg.
500	66	Eagerly.	800	"	Effigy.
525	" "	Ease.	825	"	Elapse.
550	66	Earthquake.	850	"	Egotist.
575	66	East.	875	" "	Elate.
600	66	Economy.	900	"	Eject.
625	"	Easy.	950	"	Elk.
650	"	Effect.	1000	" "	Elbow.
675	"	Eat.			

FEED PER REVOLUTION

1	inch feed	Barren.	5 inc	ch fee	dBedford.
11	2 "	Bascom.	6	"	Beach.
2	" "	Bath.	7	" "	Belden.
21	2 "	Battery.	8	"	Bellmore.
3	" "	Battle.	9	"	Belmont.
3^{1}_{2}	2 "	Beacon.	10	" "	Bengal.
4	**	Bean.	11	" "	Benton.
41	2 "	Beaver.	12	" "	Berlin.

HAND OF SAW

Righ	t Hand	 •	•	-	-	-	-	•	•	•	-	.Hamlet.
Left	Hand.			-	-	-	-					.Hazzard

SIZE OR KIND OF TOOTH

No.	1	Chisel	-Tooth	Pack.	No.	3	Chisel-	Tooth	Pagan.
"	2	" "	66	Pace.	"	4	" "	"	Palace.
"	$2\frac{1}{2}$	"	"	Paddle.	" "	5	" "	"	Palm.
				Solid Tooth		T	Danic		

FOR SHIPPING

Send by Express......Safeguard. | Send by Freight.....Seafarer. Send by Mail.....Sensible. Also use the following Codes:

A. B. C., 5th Edition. Lieber's Standard. Western Union Universal.

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THE PRESS AND SAW DEPARTMENTS

ARE MANAGED AND RUN INDEPEN-DENTLY OF ONE ANOTHER, BUT THE SKILL AND BRAINS THAT HAVE MADE IT POSSIBLE TO PERFECT THE WON-DERFUL PRESS SHOWN ON THE FOLLOWING PAGE ARE ALWAYS AT THE SERVICE OF THE SAW DEPART-MENT, AND THIS ASSISTANCE HAS HELPED TO MAKE AND TO KEEP THE "HOE" CHISEL=TOOTH SAW THE SUPE= RIOR OF ANY OTHER MANUFACTURED.

28

R. Hoe & Co.'s Double Octuple Newspaper Perfecting Press

THE LATEST ACHIEVEMENT IN PRINTING MACHINERY



This press has a capacity equivalent to 200,000 8-page papers per hour, and will produce, at proportionate speeds, complete papers of any number of pages up to 32, delivering them folded, cut, pasted and counted. It will also print in colors when desired.





7 8 W . 3 W 5 W

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ORDER BLANK.

When ordering Circular Saws please fill up the following; tear it off at perforations and mail to R. HOE & CO., 504-520 Grand Street, New York, N. Y., U. S. A.

	Please sendsaw (s), as follows:
1.	Whether Chisel-Tooth or Solid
2.	Diameter
3.	Number of Teeth
4.	Size of teeth (whether No. 1, 2, 21/2, 3, 4 or 5)
5.	Gauge, or thickness, at hole (see page 35 of catalogue)
6.	Gauge, or thickness, at rim (see page 35 of catalogue)
7.	Diameter of centre hole
8.	Diameter of pin holes
9.	Distance pin holes are apart, measured between their centres
10.	When standing in front of the saw, cutting towards you, }
11.	Revolutions per minute out of cut
12.	Revolutions per minute in the cut
13.	Greatest feed at each revolution
14.	Kinds of timber to be sawed,
15.	Horse power available
16.	Does mandrel run cold, warm or hot?
Ren	nar! s
•••••	
	Signature
	Post Office Address
Shir (e	by Freight) to
Dat	ed
	Send also a territet of the holes by placing a piece of paper and holding it tightly on the loose collar

Send also a templet of the holes by placing a piece of paper and holding it tightly on the loose collar or flange and pressing it around the holes with the finger. The mandrel holes in our large circular saws are all made 2 inches in diameter. The pin holes are $\frac{3}{5}$ inch in diameter, and are placed 3 inches apart from centre to centre, unless otherwise ordered, and we recommend this as a standard size. It is important that the mandrel hole be made exactly right, and it should not be altered after the saw leaves our works.



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10.	When standing in front of the saw, cutting towards you, }								
11.	Revolutions per minute out of cut								
12.	Revolutions per minute in the cut								
13.	Greatest feed at each revolution								
14.	Kinds of timber to be sawed								
15.	Horse power available								
16.	Does mandrel run cold, warm or hot?								
Rem	arks								
	Signature								
	Post Office Address								
Ship	by Freight to								
Dat	ed								
	Send also a templet of the holes by placing a piece of paper and holding it tightly on the loose collar								
	The mandrel holes in our large circular saws are all made 2 inches in diameter. The pin holes								

the mandrel holes in our large circular saws are all made 2 inches in diameter. The pin holes are $\frac{4}{3}$ inch in diameter, and are placed 3 inches apart from centre to centre, unless otherwise ordered, and we recommend this as a standard size. It is important that the mandrel hole be made exactly right, and it should not be altered after the saw leaves our works.



